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Short Commentary

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Adherence to the GNN Protocol of Neonatal Sepsis among Admitted Neonates in Al-Nassr Pediatric Hospital, Gaza, Palestine

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Background

Neonatal sepsis is defined as systemic inflammatory response syndrome in the presence of suspected or proven infection in a neonate. Early-onset sepsis (EOS) is defined as sepsis occurring at less than 72 hours of age, while Late-onset sepsis (LOS) occurs after 72 hours of age. The Gaza Neonatal Network (GNN) guidelines committee has developed guidelines for management of early-onset and late-onset neonatal sepsis.

The aim of this audit was to evaluate adherence of the Pediatric residents to the GNN protocol for management of early-onset and late-onset neonatal sepsis.

Methods

This audit was conducted in the Neonatal Intensive Care Unit of al-Nassr pediatric hospital over a period of 2 months (February 2017 – April 2017). A total number of 39 cases were randomly included, 8 EOS and 31 LOS. 15 cases were prospectively assessed in addition to 24 retrospective cases (obtaining patient files).

After identifying gaps in management of LOS in relation to obtaining urine culture and educating staff regarding this finding, a re-audit was done in July 2017 targeting 31 random cases for comparison with the previous audit.

Findings

In management of EOS, clinicians demonstrated strict adherence to the GNN guidelines obtaining all investigations, except for CRP (87.5%). Lumbar puncture was done in indicated cases as per protocol. Whereas, in the management of LOS, which was also mostly complying with the guidelines, clinicians failed to obtain a urine culture (64.5% of cases) and CRP (93.5%) in the workup of neonates presenting with LOS. All sepsis cases received the recommended choice of antibiotics for an adequate duration with justified change to 2nd and 3rd line antibiotics when indicated. Mean duration of hospitalization was 8 and 6 days for EOS and LOS respectively.

Interestingly, the results for the re-audit showed a significant improvement in obtaining urine culture as a part of the routine workup in LOS with a percentage increase from 35.5% to 97.7%.

Interpretation

Overall, the adherence to the GNN protocol in the management of neonatal sepsis in NICU at al-Nassr Pediatric Hospital was good. CRP was not obtained, as it was not available in the Ministry of Health during the study period. The intervention following the first audit with educating staff and raising staff awareness regarding obtaining urine culture in LOS has shown great impact and effectiveness and further improved the management. CRP tests should be made widely available as a sensitive and reliable tool in diagnosis and as a guide of managing neonatal sepsis, especially for cases with negative blood culture.

This study demonstrates the effectiveness of low-cost interventions, such as clinical audit and staff feedback, in identifying weaknesses and improving the quality of delivered care. It is a process that needs to be further spread throughout Gaza healthcare system.

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